

REMARKS

INTRODUCTION

In accordance with the foregoing, the abstract has been amended. Claims 1-39 are pending and under consideration.

OBJECTION TO THE SPECIFICATION

The abstract was objected to because of the word "invention." Appropriate correction has been made to the abstract.

Withdrawal of the foregoing objection is respectfully requested.

CLAIM REJECTIONS – 35 USC 103

Claims 1-39 were rejected under 35 USC 103(a) as being unpatentable over Kuroki et al. (US 6,898,485) (hereinafter "Kuroki").

Kuroki discusses a device and method for controlling operation of a legged robot and a robot device. In the robot discussed in Kuroki, each leg constituting the lower limbs has a hip-joint yaw-axis 16, a hip-joint pitch-axis 17, a hip-joint roll-axis 18, a knee-joint pitch-axis 19, an ankle-joint pitch-axis 20, an ankle-joint roll-axis 21, and a foot 22. The cross point between the hip-joint pitch-axis 17 and the hip-joint roll-axis 18 defines a hip-point location of the legged walking robot 100. Although the human foot 22 actually has a structure including a bottom having multi-joints multi-degrees-of-freedom, the foot bottom of the legged walking robot 100 has zero degree of freedom. Each leg has 6 degrees of freedom. Kuroki, 11:60-12:5.

Each degree of freedom of the legged walking robot 100 discussed in Kuroki is implemented by using an actuator. The actuator is small and light in consideration of the requirements for assimilating it to the outer shape of a natural human body by eliminating an excessive projection thereof and for performing the attitude control of the unstable biped walking structure thereof. Kuroki, 12:15-12:22.

Independent claims 1, 32 and 39 recite: "...a double-axis ankle joint provided between each of the respective foot member and the calf member to allow the foot member to rotate relative to the calf member in forward and backward directions and in right and left directions..." In contrast to claims 1, 32 and 39, Kuroki does not discuss either a calf member or a double-axis

ankle joint. Although a second thigh is discussed in Kuroki, the second thigh shown but not described in Figure 1 of Kuroki does not correspond to the calf member recited in independent claims 1, 32 and 39. Further, Kuroki does not discuss a double-axis ankle joint as is recited in independent claims 1, 32 and 39 and shown in Figure 1 of the present application. In Figures 1 and 2 of Kuroki, it appears that the ankle joint rotates along a single axis.

Claims 2-31 and 33-38 depend from claims 1 and 32, respectively, and are believed to be allowable for at least the foregoing reason. Further, claims 2-31 and 33-38 recite features that patentably distinguish over Kuroki. For example, claim 2 recites that each of the ankle joints comprises a first yoke incorporated with an upper part of the foot member and a second yoke incorporated with a lower part of the calf member and coupled to the first yoke so as to rotate the foot member relative to the calf member.

Withdrawal of the foregoing rejections is respectfully requested.

CONCLUSION

There being no further outstanding objections or rejections, it is submitted that the application is in condition for allowance. An early action to that effect is courteously solicited.

Finally, if there are any formal matters remaining after this response, the Examiner is requested to telephone the undersigned to attend to these matters.

If there are any additional fees associated with filing of this Amendment, please charge the same to our Deposit Account No. 19-3935.

Respectfully submitted,

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